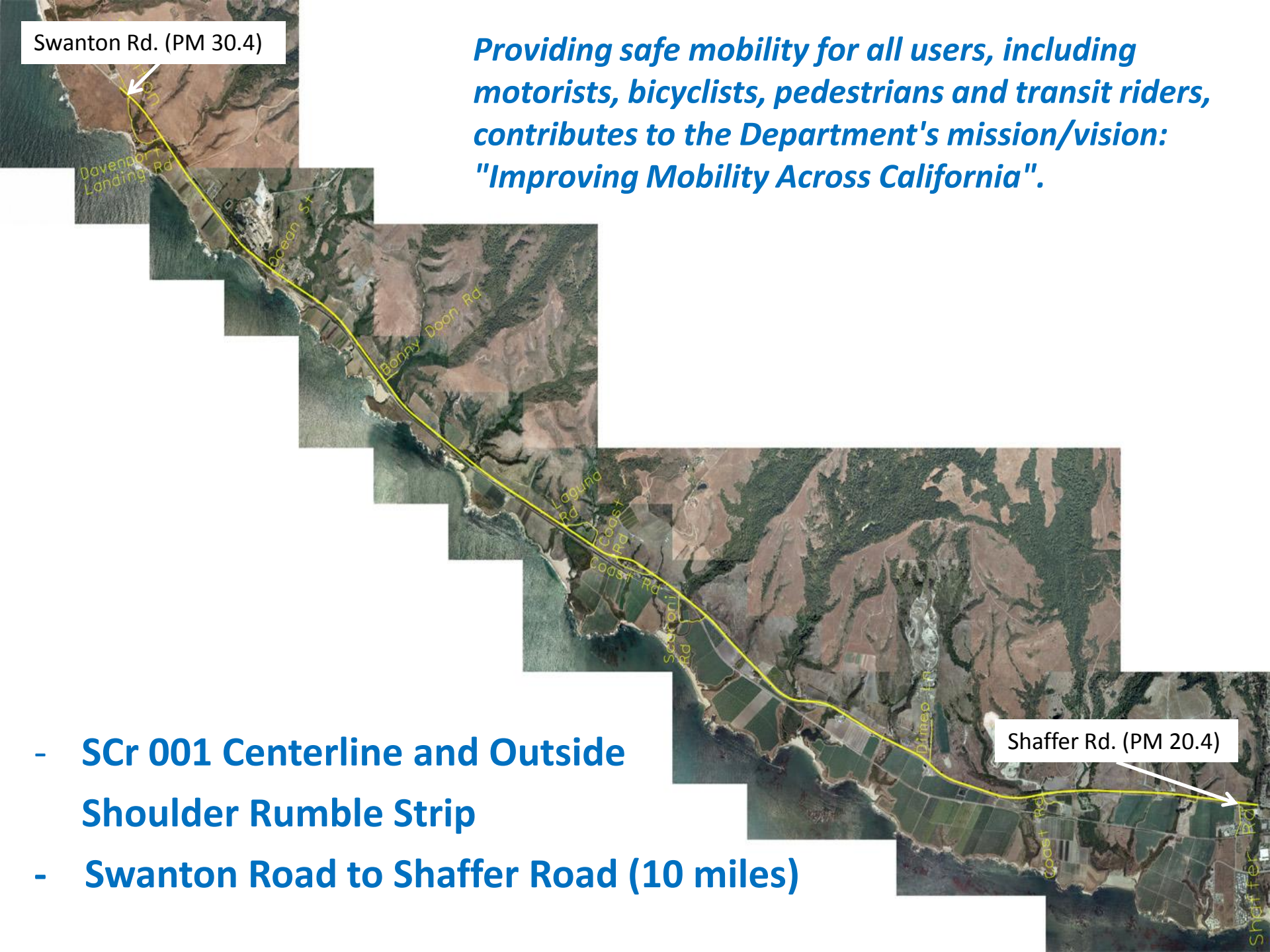
April 9, 2012

SCr 001 Centerline and Outside Shoulder Rumblestrip



Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility Across California".

- **SCr 001 Centerline and Outside Shoulder Rumble Strip**
- **Swanton Road to Shaffer Road (10 miles)**

Post Mile Locations

11/22/2011 SCr-001

District 5
POST MILES FOR LOCATION IDENTIFICATION

COUNTY	ROUTE
SCr	001

DESCRIPTION	POST MILE
SANTA CRUZ NORTH MAINTENANCE (522)	
Southview Terrace	20.22
Shaffer Road Mission Street	20.41
Santa Cruz City Limits	20.61
Meder Creek Bridge Wilder Ranch Trail U.C. No. 36-08	21.51
Wilder Ranch State Park (Lt.) Granite Rock Plant Road (Rt.)	21.78
Dimeo Lane (Rt.)	22.70
Scaroni Road (South) (Lt)	24.73
Scaroni Road (North) (Lt.)	24.98
Coast Road (South) (Lt.)	25
Coast Road (Lt.)	25.54

DESCRIPTION	POST MILE
SANTA CRUZ NORTH MAINTENANCE (522)	
Laguna Road (Rt.)	25.74
Laguna Road (Rt.)	25.98
Bonny Doon Road (Right)	27.62
Davenport Avenue (Right)	28.62
Ocean Avenue (Right)	28.73
Cement Plant Road (Rt.)	28.90
GX- Davenport Railroad Crossing	29.00
Davenport Landing Road (South)	30.07
Davenport Landing Road (North) (Lt.)	30.44
Swanton Road (Rt.)	30.44
Scott Creek Bridge No. 36-31	31.55

How Caltrans Builds Projects

WE ARE HERE →

2-3 Lane Monitoring Report

- Addresses cross centerline collisions on 2-3 lane highways.
- Utilizes collision data for most recent 5 year period.
- Collisions included are cross-centerline, head-on fatal collisions.

2-3 Lane Monitoring Report

Low Cost Improvements Include:

- Centerline Rumble Strips (CRS)
- Shoulder Rumble Strips (SRS)
- Buffer Zones
- Reducing or eliminating passing areas
- Lane or shoulder widening
- Physical Barriers

Cross Centerline Fatal Collision List
2 and 3 Lane Conventional and Expressway
2004 through 2008

	Report		To be investigated w/report				Review	To be reviewed / no report			
			No cross centerline fatal collisions in 2008					Post mile break			
ACTION	DISTRICT	CO	RTE	PRE	PM	ACCUM	DATE	AC	NO. OF LN	FATALITY	XX for 2008 Collision
	4	SON	1		20.69	71.20	7/8/2006	C	2	2	
	4	SON	1	T	32.84	83.35	2/17/2007	C	2	1	
	4	SON	1		36.65	87.16	05/01/05	C	2	1	
	7	VEN	1		5.54	102.13	07/29/05	C	3	1	
	7	VEN	1		6.76	103.35	10/20/2006	C	3	1	
	5	SB	1	R	3.3	128.37	9/14/2008	E	2	1	XX
	1	MEN	1		59.29	168.38	2/1/2007	C	2	2	
	5	SLO	1		11.13	186.80	05/20/05	C	2	1	
	5	SLO	1		47.98	223.65	11/12/2007	E	2	1	
	5	SLO	1		68.06	243.73	10/16/05	C	2	1	
	5	SLO	1		68.2	243.87	9/21/2007	C	2	2	
	5	MON	1		55.1	305.10	11/1/2006	C	2	1	
	5	MON	1	T	92.13	342.13	11/12/2006	E	2	1	
	5	MON	1		95.22	345.22	10/01/05	C	2	1	
	5	MON	1		95.62	345.62	4/24/2004	C	2	1	
	5	MON	1		97.2	347.20	8/25/2006	C	2	1	
	5	MON	1		97.25	347.25	02/02/05	C	2	1	
	5	MON	1		99.32	349.32	4/13/2004	C	2	2	
	5	MON	1		100.87	350.87	12/15/2007	C	2	1	
	5	MON	1		100.88	350.88	06/01/05	C	2	1	
Review	5	SCR	1		25.55	377.58	1/27/2008	C	2	1	ROR LT
Review	5	SCR	1		27.11	379.14	12/31/2007	C	2	1	ROR RT/LT
Review	5	SCR	1		27.20	379.23	08/07/05	C	2	1	ROR LT
	4	SM	1		2.06	391.54	6/21/2008	C	3	2	XX
Review	4	SM	1		20.18	409.66	10/01/05	C	2	1	
Review	4	SM	1		20.88	410.36	3/23/2008	C	2	1	XX
Review	4	SM	1		22.94	412.42	1/5/2006	C	2	1	
	4	SM	1		33.91	423.39	10/6/2007	C	2	1	
	4	SM	1		35.86	425.34	07/20/05	C	2	1	

Collision History

Qualifying (2-3 Lane Monitoring Report)

01-01-04 to 12-31-08

	Total Accidents	Fatal	Injury	PDO	Persons		Bike	Beyond Med or Shld Drvs Left	Beyond Shldr Drvs Right
					Killed	Injured			
ALL	129	5	62	62	5	105	21 (16%)	17 (13%)	50 (39%)
ROR	28	1	14	13	1	30	0	9 (32%)	17 (61%)

Current

01-01-04 to 09-30-2010

	Total Accidents	Fatal	Injury	PDO	Persons		Bike	Beyond Med or Shld Drvs Left	Beyond Shldr Drvs Right
					Killed	Injured			
ALL	172	7	83	82	8	142	24 (14%)	21 (12%)	63(37%)
ROR	39	2	17	20	2	35	0	8 (20.5%)	26 (67%)

OTM22200
04/05/2012
09:50 AM

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - ACCIDENT DETAIL
' SCr-001-PM 20.41/30.44, Date Range: 1/1/2004-9/30/2010 '

DI	RTE NO	SUF	CO	PRE	POST MILE	DIR
05	001		SCR		020.411	S
05	001		SCR		020.560	N
05	001		SCR		020.790	N
05	001		SCR		020.840	N
						N
05	001		SCR		020.870	N
						S
05	001		SCR		020.910	S
05	001		SCR		021.780	S
05	001		SCR		022.690	N
05	001		SCR		022.690	S
						S
05	001		SCR		022.710	N
05	001		SCR		023.150	N
05	001		SCR		023.580	S
05	001		SCR		023.700	N
						<
05	001		SCR		024.000	N
05	001		SCR		024.110	N
05	001		SCR		024.470	S
05	001		SCR		025.040	N
05	001		SCR		025.060	N
05	001		SCR		025.260	N
05	001		SCR		025.450	S
05	001		SCR		025.470	S
05	001		SCR		025.590	N
05	001		SCR		025.730	N
05	001		SCR		026.080	N
05	001		SCR		026.220	S
05	001		SCR		026.740	N
05	001		SCR		026.780	N
						S
05	001		SCR		026.800	S
05	001		SCR		026.920	S
						N
05	001		SCR		027.110	S
						N
05	001		SCR		027.420	N
05	001		SCR		027.680	N
05	001		SCR		027.720	N
05	001		SCR		028.330	N
05	001		SCR		028.480	N
05	001		SCR		028.550	S
05	001		SCR		028.600	S
05	001		SCR		028.890	S
05	001		SCR		029.060	S

What are Rumble Strips?

- Longitudinal Safety Feature
- Series of Milled or Rolled-In elements
- Alert Inattentive Drivers

Why Are Rumble Strips Used?

- (FHWA) Federal Highway Administration's goal: "to reduce the number and severity of roadway departure crashes".
- Single Vehicle Run-Off-Road Collisions Account for 1 out of every 3 fatal collisions (33%).
- Centerline Rumble Strips provide reductions in single-vehicle run-off-road crashes from 38% to 50%.
- Shoulder Rumble Strips provide reductions in single-vehicle run-off-road crashes from 26% to 46%.

History of Rumble Strips at Caltrans

- Research regarding run-off-road begins 1960's
- 1977 – Caltrans (CT) Conducts First CRS Test
- 1989 – CT Conducts First SRS Strip Test
- September, 1999 – OTSR (Office of Traffic Safety Research) teams with:
  - Caltrans
  - California Bicycle Advisory Committee (CBAC)
  - League of American Bicyclists
  - FHWA
  - AASHTO (American Association of State Hwy and Transportation Officials

History of Rumble Strips at Caltrans

- 2001 – Evaluation of Milled-In Rumble Strips, Rolled-In Rumble Strips and Audible Edge Stripe

- *"The goal of these tests were to find treatment(s) that were effective in alerting inattentive/drowsy drivers to reduce run-off-road collisions through audible and tactile sensations in the vehicle, and to also provide a treatment that could be comfortably traversed by a bicyclist if required".*

-2001 – Evaluation of Milled-In Rumble Strips, Rolled-In Rumble Strips and Audible Edge Stripe

History of Rumble Strips at Caltrans

- October 5, 2011 – Traffic Operations Policy Directive (TOPD) 11-04 Guidelines for Installation of Rumble Strips
- Policy Update
- Provide Alternatives

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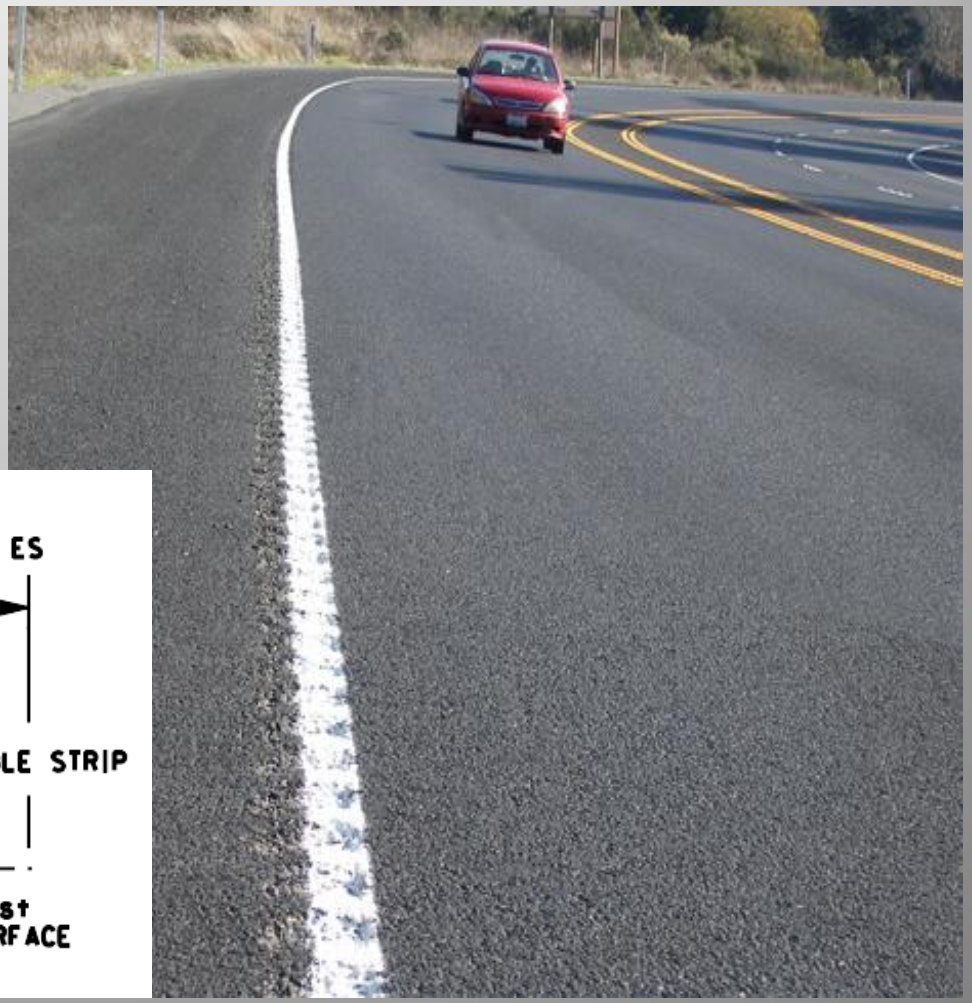
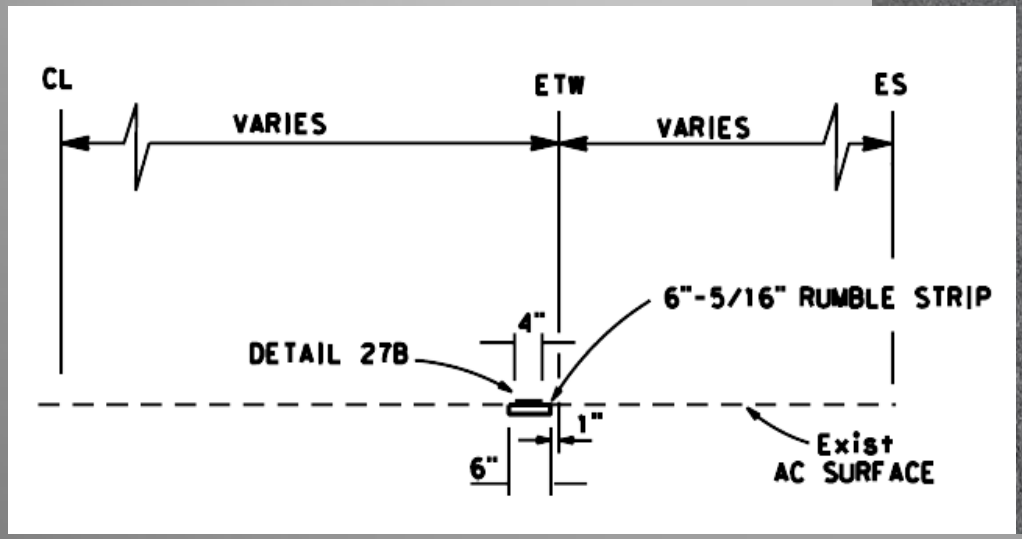
Rumble Strip Alternatives

Rumble Stripe

6” Rumble Strip

underneath the 4” edge line





Rumble Strip Alternatives

Bicycle Gaps

Recurring short gaps to allow movement from one side of the rumble strip to the other.

Typical pattern is 10-12 feet gaps spaced 40-60 feet apart.

U.S. Department of Transportation
National Highway Traffic Safety Administration

TRAFFIC SAFETY FACTS
Research Note

DOT HS 811 379

September 2010

Fatal Crashes, Drivers in Fatal Crashes, and Fatalities in Crashes, by Year

Year	Overall			Distraction		
	Crashes	Drivers	Fatalities	Crashes	Drivers	Fatalities
2005	39,252	59,220	43,510	4,026 (10%)	4,217 (7%)	4,472 (10%)
2006	38,648	57,846	42,708	5,245 (14%)	5,455 (9%)	5,836 (14%)
2007	37,435	56,019	41,259	5,329 (14%)	5,552 (10%)	5,917 (14%)
2008	34,172	50,416	37,423	5,307 (16%)	5,477 (11%)	5,838 (16%)
2009	30,797	45,230	33,808	4,898 (16%)	5,084 (11%)	5,474 (16%)

Source: NCSA, FARS 2005-2008 (Final), 2009 (ARF)

United States
Department of Transportation

April is National Distracted Driving Awareness Month

- Drivers spend more than half their time behind the wheel engaged in distracted behavior.

- Using a cell phone while driving increases the risk of crashing by 400%.

- Eating, smoking, or adjusting music while driving can be just as dangerous as using a cell phone.

- Passengers are one of the most frequently reported causes of distraction, with young children being 4 times more distracting than adults and infants being 8 times more distracting.


HAND-HELD
TALKING & TEXTING
IT'S NOT WORTH IT.
OTS
CHP
NHTSA
Caltrans
It's NOT Worth It!

Caltrans Goal

Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility Across California".